Governor Arnold Schwarzenegger's
California Hydrogen Highway Network Action Plan

California is facing major challenges in the areas of air pollution, public health, energy security, and national security as a result of our over-dependence on petroleum fuels. One in six children in the State's most polluted regions suffer from asthma, and over three-quarters of the State does not meet national primary or secondary ambient air quality standards. In 2003, 60% of the state's air pollution came from mobile sources (cars, trucks, buses and other forms of transportation). The citizens of California have been enduring frequent gasoline price spikes and the State is facing critical shortages in refining capacity, which will drive prices even higher.

A solution to these problems is to begin building a bridge to a cleaner, more secure and more sustainable transportation and energy future. The goal of the California Hydrogen Highway Network initiative is to support and catalyze a rapid transition to a clean, hydrogen transportation economy in California, thereby reducing our dependence on foreign oil, and protecting our citizens from health harms related to vehicle emissions. We have an opportunity to deal with these problems by investing in California's ability to innovate our way to a clean hydrogen future, thus bringing jobs, investment, and continued economic prosperity to California. We have an opportunity to prove to the world that a thriving environment and economy can co-exist.

The "Vision 2010" for California's Hydrogen Highways is to ensure that by the end of the decade every Californian has access to hydrogen fuel along the State's major highways, with a significant and increasing percentage of that hydrogen produced from clean, renewable sources. This vision for California is real and attainable; however, it will take time so we must plant the seeds now.

To expedite the transition of our transportation system away from petroleum fuels, towards hydrogen fuel and vehicles, experts point to the crucial need for a hydrogen fueling infrastructure and the necessary leadership to make it a reality. An early network of only 150 to 200 hydrogen fueling stations throughout the State (approximately one station every 20 miles on the State's major highways) would make hydrogen fuel available to the vast majority of Californians. This early vision for California's Hydrogen Highway Network is achievable by 2010 and will help demonstrate the economic and technical viability of hydrogen technologies. Studies by the California Fuel Cell Partnership and others estimate that this initial low-volume fueling network will cost $75 - $200 million, the majority of this investment coming from private investment by energy companies, automakers, high-tech firms, and other companies.

California is already a clear leader in the areas of advanced vehicles, alternative fuels and clean energy. Already there are over a dozen hydrogen fueling facilities in California and more than 40 fuel cell vehicles have been placed in

demonstration programs throughout the state. At least nine more hydrogen stations will be added in 2004 (several more are planned but not yet announced). By 2007, fuel cell hybrid vehicles, both buses and light-duty vehicles, will be used in demonstration fleets in tandem with early hydrogen fueling infrastructure. Internal combustion hydrogen hybrid vehicles will also be available both in fleet applications and commercially in larger numbers in the 2006-7 time frame. By 2010, automakers have indicated that "tens of thousands" of fuel cells vehicles will be commercially available, provided there is fueling infrastructure in place. California has an opportunity to ready the landscape for the placement of hydrogen vehicles better than anywhere else in the world.

In order to achieve the “2010 Vision,” the California Hydrogen Highway Network Action Plan is developing public/private partnerships that will work together to invest in the early infrastructure development, and to address key hydrogen commercialization challenges. The public sector needs to play a role in setting the stage for hydrogen commercialization (incentives, loan guarantees, revenue bond funding, education and training, etc) so that investment by the private sector can take place and the market can develop.

Finally, it is abundantly clear that many of the world's nations (Japan, China, Canada, Iceland, Norway, and the European Union) are actively pursuing a similar vision of a hydrogen economy for many of the same reasons - energy security, energy diversity, national security, the environment, climate change, and public health. Canada, the European Union and Japan all have ambitious hydrogen plans which include visions for Hydrogen Highways. The Hydrogen Technical Advisory Panel predicted several years ago that a hydrogen infrastructure will be in place in the US by the year 2050—with or without California’s efforts. To bring the business and investment to the State, we must provide an unprecedented level of leadership to bear on the issue.

We will prove the Governor’s words in his State of the State address on January 6, 2004,“I intend to show the world that economic growth and the environment can coexist. And if you want to see it, then come to California.” We will show that Hydrogen Means Business in California. There is clear momentum building and we must act now in California if we want to play a key role in shaping a clean hydrogen future.